

WHAT IS CLAIMED IS:

1 1. A method of applying a flowable substance to a
2 a web of wrapping material for rod-shaped products, com-
3 prising the steps of:

4 confining the web to movement along a predetermined
5 path;

6 directing at least one stream of flowable substance *in <> manner*
7 toward one side of the web ~~and~~

8 ~~moving the stream relative to the path to provide~~
9 ~~the web with~~ *<an at least partially non-linear>* ~~layer of~~
10 ~~flowable substance.~~

1 2. The method of claim 1, wherein said directing
2 step includes the utilization of a nozzle having an
3 orifice which discharges the at least one stream of
4 flowable substance, ~~said moving step~~ including rotating
5 the stream. *and* *es*

1 3. The method of claim 2, wherein said rotating
2 step includes directing against the stream at least one
3 flow of a fluid substance.

1 4. The method of claim 3, wherein the fluid sub-
2 stance is air.

1 5. The method of claim 3, wherein said stream
2 directing step includes imparting to the stream the shape
3 of a hollow cone having an apex in line with the orifice
4 of the nozzle.

1 6. The method of claim 5, wherein said flow
2 directing step includes causing the flow to impinge upon
3 the stream at an acute angle.

1 7. The method of claim 6, wherein said angle at
2 least approximates 30°.

1 8. The method of claim 6, wherein said flow is
2 substantially tangential to said cone.

1 9. The method of claim 3, wherein said flow
2 directing step includes causing the fluid substance to
3 flow along a preselected path prior to and during
4 issuance of the stream from the orifice of the nozzle.

1 10. The method of claim 3, further comprising the
2 steps of pumping the flowable substance from a source
3 to the orifice of the nozzle at a variable pressure and
4 providing an open-and-shut closure for the orifice.

1 11. The method of claim 10, wherein said pumping
2 step includes raising the pressure of the flowable sub-
3 stance to a predetermined value prior to opening of the
4 orifice.

1 12. The method of claim 11, wherein the opening
2 of the orifice takes place approximately 0.5 second sub-
3 sequent to raising of the pressure of flowable substance
4 to said predetermined value.

1 13. The method of claim 3, further comprising the
2 step of advancing the web lengthwise along said path at
3 a variable speed ~~during the carrying out of said stream~~
4 ~~directing and stream moving steps.~~

1 14. The method of claim 13, further comprising
2 the step of discharging the flowable substance from the
3 orifice at a rate which is a function of the speed of
4 advancement of the web along said predetermined path.

1 15. The method of claim 14, wherein said step of
2 discharging the flowable substance includes varying the
3 rate of discharge of flowable substance proportionally
4 with variations of the speed of the web.

1 16. The method of claim 14, wherein said step of
2 discharging the flowable substance includes discharging
3 the flowable substance from the orifice at a rate of at
4 least 2 grams per minute.

1 17. The method of claim 1, wherein the non-linear
2 layer is a spiral layer.

1 18. The method of claim 1, wherein the flowable
2 substance is an adhesive.

1 19. A method of making a filter for tobacco smoke,
2 comprising the steps of:

3 advancing a tow of filter material for tobacco
4 smoke along a first path;

5 advancing a web of wrapping material lengthwise
6 along a second path toward and into said first path;

7 applying to one side of the web in said second path
8 a non-linear layer of adhesive extending lengthwise of
9 the web; and

10 draping the adhesive-bearing web around the tow
11 in said first path.

1 20. The method of claim 19, wherein said applying
2 step includes applying adhesive to one of two marginal
3 portions and to an intermediate portion of the web adjac-
4 ent the one marginal portion, said draping step including
5 bonding the marginal portions to each other and bonding
6 the intermediate portion to the tow.

1 21. Apparatus for applying an adhesive substance
2 to a running web of wrapping material for rod-shaped smo-
3 kers' products, comprising:

4 means for advancing the web lengthwise along a
5 predetermined path;

6 a nozzle adjacent a portion of said path and
7 arranged to discharge a stream of adhesive substance
8 against one side of the web in said path; and

9 means for varying the direction of propagation of
10 the stream so that the adhesive which deposits on the
11 web forms at least one non-linear layer.

1 22. The apparatus of claim 21, wherein said means
2 for varying includes means for directing against the
3 stream of adhesive substance at least one jet of a
4 gaseous fluid.

1 23. The apparatus of claim 21, wherein said means
2 for varying includes means imparting to the non-linear
3 layer the shape of a spiral.